

### REMARKS/ARGUMENTS

Claims 1-11, 13-26, 28-38, 40, and 42-50 remain in the application for further prosecution. Claims 1-3, 5-7, 10, 11, 16-18, 20, 25, 28-30, 32, 37 and 38 have been rejected. Claims 4, 6, 8-9, 13-15, 19, 21-24, 31, 33-36, 40 and 44 are objected to. The Applicants thank the Examiner for allowance of claims 42, 43 and 45-50.

#### § 103 Rejections

Claims 1-3, 5-7, 10-11, 16-18, 20, 25, 28-30, 32 and 37-38 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,434,509 to Blades ("Blades") in view of U.S. Pat. No. 6,242,922 to Daum et al. ("Daum"). As stated by the Examiner, Blades is directed to an arc detector for detecting potentially hazardous arcing in electrical connections. Blades Abstract. Daum is directed to a "low cost mixed analog digital application specific integrated circuit" that "includes a standard central processing unit (CPU) programmed to execute a correlation function for arc detection." Daum Abstract.

In order to prove a *prima facie* case of obviousness, the entirety of the prior art references must be considered, including portions that teach away from the desirability of the combination. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983). It is the Applicants' belief that Daum teaches away from combining Daum with Blades. In the "Background of the Invention" section of Daum, it states that known circuit breakers execute algorithms to eliminate possible noise sources. Daum, col. 1, ll. 34-45. According to Daum, such known algorithms include fourier analysis and other frequency domain based approaches. *Id.* The noise sources "are eliminated from the primary signal by classifying the noise...and then using such classified signals to identify noise signals and sources in the primary signal." Daum, col. 1, ll. 39-43. The

noise signals are subtracted from the primary signal in order to eliminate the noise portion of the signal. *Id.* However, according to Daum, such a method is difficult because it requires correct classification of the noise signals followed by storage of data. Daum, col. 1, ll. 46-50.

Blades discloses extracting the noise by classifying the noise signals. As stated in the Office Action, Blades discloses “means for extracting high-frequency noise,” the high-frequency noise being substantially higher in frequency. June 9, 2005 Office Action, pp. 2-3. Therefore, Blades is classifying noise signals and then subtracting the noise signal from the primary signal in order to eliminate the noise from the signal. Because this is precisely the problem that Daum is striving to fix, one of ordinary skill in the art would not be motivated to combine Daum with Blades. In view of Daum, one of ordinary skill in the art would be lead away from combining Blades with Daum. Therefore, it is the Applicants’ belief that Daum is not properly combinable with Blades.

Claims 1-3, 5, 10, 16-18, 20, 25, 28-30, 32, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,625,550 (Scott et al) in view of Daum. Scott is directed to an “arc fault detector system” that “detects arcing faults in an electrical distribution system.” Scott, Abstract. The input signal is processed “to develop signals representing the electrical current flow through the monitored circuit and broadband noise signal components.” *Id.* The method disclosed in Scott distinguishes between normally noisy load currents and arcing currents utilizing predefined levels of  $di/dt$  (the rate of change of current over time), broadband noise, high currents, decaying currents, and current aspect ratios. Scott, col. 10, ll. 24-27. For the reasons stated above in reference to the combination of Blades and Daum, it is the Applicants’ belief that the combination of Scott and Daum is improper. Specifically, Daum

teaches away from using an algorithm that relies on classifying noise. Scott, like Blades, discloses an algorithm that classifies broadband noise. Therefore, one of ordinary skill in the art would not be motivated to combine Scott with Daum. Because the combination of Scott and Daum is believed to be improper, claims 1-3, 5, 10, 16-18, 20, 25, 28-30, 32, and 37 are believed to be allowable.

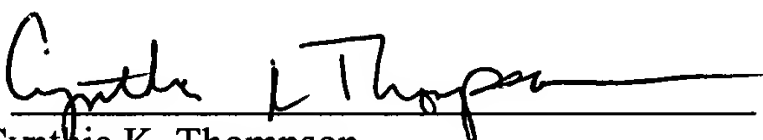
### **Conclusion**

It is the Applicants' belief that all of the claims are now in condition for allowance and action towards that effect is respectfully requested.

If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at the number indicated.

Respectfully submitted,

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